

What We Do

Electromagnetic Environmental Effects

Electromagnetic Environmental Effect (E3) is the impact of the electromagnetic environment on the performance of systems and subsystems containing electronic components.

E3 services are provided to primarily identify, address, and prevent U.S. Army weapon system subsystem and component degradation due to electromagnetic effects in operational environments. RTTC can also perform E3 testing of other military and commercial equipment. State-of-the-art facilities and a highly qualified staff are dedicated to ensuring that systems, subsystems and components tested meet their performance requirements and are safe during & after exposure to natural and man-made Electromagnetic environments.

The Center has been designated as the DoD lightning-effects tester for explosive ordnance and munitions.

The E3 Branch can also perform many tests at other facilities world-wide using customer equipment.

Primary Services and Capabilities

- Electromagnetic Interference (EMI)
- Electromagnetic Compatibility (EMC)
- Electromagnetic Radiation (EMR) -- Operational (EMRO)
- Electromagnetic Radiation (EMR) -- Hazards (EMRH)
- Hazards of Electromagnetic Radiation to Ordnance (HERO)
- Electromagnetic Vulnerability (EMV)
- Electromagnetic Pulse (EMP)/Nuclear

- Near- and Direct Strike Lightning (NSL & DSL)/Lightning Effects (LE)
- Electrostatic Discharge (ESD) -- Personnel (PESD) & Helicopter (HESD)
- Shielding Effectiveness (SE)
- Power Quality measurement
- Radar Cross Section (RCS)/signature
- Other electromagnetic safety/hazards and operational testing



THAAD BM
shelter EMI
attenuation test



EMC-Noise floor
analysis of HH-
60L



Direct lightning
test of TACMS
rocket pod

Supplementary Services

- Instrumentation design, development, fabrication, installation and check-out
- Electrostatic charge measurements
- Automated data acquisition
- Aircraft ground services
- Telemetry ground station support
- Assist PMs/customers in determining specific test requirements, limits and criteria
- Assist PMs/customers in determining the minimum necessary test setups and configurations, operational modes and phases that should be tested
- Can handle and store classified information and testing

Specialized Facilities and Equipment

- Hazardous/nonhazardous lightning
- Hazardous/nonhazardous ESD
- Electromagnetic radiation effects
- 10 kHz to 40 GHz RF test
- Anechoic chambers -- 100 dB isolation
- Shielded test rooms per MIL-STD-461/462
- Sub-threat level EMP simulator
- Live Electro-Explosive Device (EED)/Electromagnetic Safe/Arm Device (ESAD) instrumentation and testing -- can test Class 1.1, 1.2, 1.3 & 1.4 explosives



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